Depletion of nutritional value of wheat and rice due to climate change

3267. SHRI RAMDAS AGARWAL: Will the Minister of AGRICULTURE be pleased to state:

(a) whether climate change is reportedly depleting nutritional value of wheat and rice, the main sources of energy for Indians, who are already having problem of 20 per cent protein deficiency;

(b) whether a study by the Indian Council for Agriculture Research has also found that protein content in wheat can fall by 10 per cent and iron content by 8 per cent due to carbon emissions; and

(c) if so, the steps Government proposes to take so that climate change may not rob food of nutritional value and save people from major health implications?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (PROF. K.V. THOMAS): (a) and (b) Several studies conducted globally indicate that protein content of wheat decreases as carbon dioxide increases. On the contrary, increase in temperature is known generally to increase the protein content in wheat. The net affect of climate change would therefore depend on the relative change in carbon dioxide and temperature. As such, there is no confirmed and validated result of the impact of climate change on nutritional value of wheat and rice, as a direct consequence of climate change. However, reduced water or varying temperature will almost certainly cause translocation related problems to the grain, during grain formation stage, thus affecting productivity.

(c) The Indian Council of Agricultural Research launched a national Network Project entitled "Impacts, Adaptation and Vulnerability of Indian Agriculture to Climate Change' in Xth Plan. The network started in 2003-04 and the total outlay of the network during the Xth Plan was close to Rs.9.5 crores. The project has been structured during XI plan also with more budgetary support (Rs.16.15 crores). The network is focusing on a comprehensive understanding of the impacts of global climate on different sectors of agricultural production such as crops, fish, livestock etc. This project also aims to determine the available management and genetic adaptation strategies to meet the impact of climatic change and climatic variability, as well as mitigation options for reducing climate changes in agro-ecosystems.

Centrally sponsored schemes to help farmers

3268. SHRI B.S. GNANADESIKAN: Will the Minister of AGRICULTURE be pleased to state:

(a) the details of the centrally sponsored schemes to help the farmers and the subsidy component of the said schemes;

(b) whether Government has initiated any appropriate awareness campaign among the farmers regarding the availability of those schemes so that the rural farmers can be benefited; and

(c) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (PROF. K.V. THOMAS): (a) Centrally Sponsored Schemes being implemented to help farmers are - Technology Mission on Cotton; Integrated Oilseeds, Oilpalm, Pulses and Maize Development; Technology Mission on Horticulture for North-East Region including Sikkim, Uttarakhand, HP and J & K; Micro Irrigation; National Bamboo Mission; National Horticulture Mission; Support to State Extension Programmes for Extension Reforms; Macro Management of Agriculture; National Food Security Mission and National Project on Management of Soil Health and Fertility.

There is a subsidy element in most of these schemes. However, funds are released by the Department to the State Governments as grants in aid. State Governments only disburse funds as subsidy to beneficiaries. Details of subsidy element of various schemes are part of guidelines of schemes which are available on the website of the DAC - WWW. agricoop. nic. in.

(b) and (c) Both the Central and State Governments carry out extensive awareness campaigns through print, electronic and other media among farmers regarding availability of schemes. Component for publicity is provided under the schemes of the DAC. The scheme of Mass Media Support to Agriculture Extension is meant exclusively for disseminate information through radio, television, etc.

Increase in fertilizer subsidy

3269. SHRI RAJEEV CHANDRASEKHAR: Will the Minister of AGRICULTURE be pleased to state:

(a) whether it is a fact that there has been a steep increase in fertilizer subsidy over the last few years;

(b) if so, the details thereof for the last three years, year-wise;

(c) the annual growth in farm production over the same period, year-wise; and

(d) the steps proposed to be taken by Government to bring about reforms in such subsidy policies to enhance productivity?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (PROF. K.V. THOMAS): (a) and (b) The expenditure on fertilizers subsidy during last three years has been as follows:

Years	Subsidy (Rs. in crores)
2006-07	28,019.55
2007-08	43,319.16
2008-09	99,494.71

(c) The annual growth in foodgrain production is as under:

Years	Annual growth
2006-07	4.16 %
2007-08	6.21 %
2008-09	1.34 %